In the Claims:

1. (Currently amended) A communication method, comprising the steps of:

receiving multiple signals;

multiplexing the signals;

transporting the multiplexed signals through a single chain;

demultiplexing the signals; and

using each of the demultiplexed signals in a related application;

wherein said step of multiplexing comprises multiplexing the multiple signals at a sampling rate greater than n*Fs, where n is the number of signals, Fs is a Nyquist sampling rate for a single signal.

2. (Original) The method according to Claim 1, wherein said step of receiving comprises receiving each of the multiple signals on a separate antenna.

3. (Original) The method according to Claim 1, wherein said step of multiplexing comprises the steps of:

multiplexing the multiple signals using an SPDT switch.

4. (Original) The method according to Claim 1, wherein the multiple signals are RF signals.

5. (Original) The method according to Claim 1, wherein:

said step of receiving comprises receiving 2 RF signals on separate antennas;

said step of multiplexing comprises multiplexing the 2 RF signals using an RF SPDT switch;

6. (Cancel)

7. (Currently amended) The method according to Claim ~~6~~ 1, wherein Fs is the Nyquist sampling rate of a highest bandwidth of the multiple signals.

8. (Original) The method according to Claim 1, wherein said step of using comprises using the demultiplexed signals in a beam forming application.

9. (Currently amended) The method according to Claim 1, wherein:

said method further comprises ~~the~~ a step of downconverting the multiplexed signals to either an IF or a baseband signal;

said step of demultiplexing comprises demultiplexing the downconverted baseband signal; and

said step of using comprises using the demultiplexed signals in a beam forming application.

10. (Original) The method according to Claim 1, wherein said step of using comprises using the demultiplexed signals in an antenna diversity application.

11. (Currently amended) The method according to Claim 1, wherein:

said method further comprises ~~the~~ a step of downconverting the multiplexed signals to a baseband signal;

said step of demultiplexing comprises demultiplexing the downconverted baseband signal; and

said step of using comprises using the demultiplexed signals in an antenna diversity application.

12. (Original) The method according to Claim 1, wherein said step of using comprises using the demultiplexed signals in separate applications.

13. (Original) The method according to Claim 12, further comprising the step of transmitting the multiple signals from separate sources.

14. (Currently amended) The method according to Claim 1, wherein:

said method further comprises ~~the~~ a step of downconverting the multiplexed signals to a baseband signal;

said step of demultiplexing comprises demultiplexing the downconverted baseband signal; and

said step of using comprises using the demultiplexed signals in separate applications.

15. (Original) The method according to Claim 1, further comprising the step of transmitting the multiple signals from separate sources.

16. (Currently amended) A communication receiver, comprising:

a switch comprising,

at least two inputs, each input configured to coupleable to at least two signal carrying devices,

a switching mechanism configured to multiplex signals received at said inputs; and

an output configured to carry the multiplexed signal;

a downconverter comprising an input coupled to the output of said switch and configured to downconvert the multiplexed signal; and

a signal processor comprising an input coupled to receive the downconverted multiplexed signal and an output;

wherein:

said signal processor is configured to provide, at the signal processor output, a data signal substantially corresponding to data contained in a communication signal carried by the signal carrying devices; and

the switch operates at a frequency which is substantially equal to at least twice a Nyquist required sampling rate for a bandwidth of the communication signal.

17. (Original) The communication receiver according to Claim 16, wherein said communication receiver is a wireless communication receiver and said signal carrying devices are antennas.

18. (Currently amended) ~~The~~ A communication receiver ~~of Claim 17, wherein the signal processor comprises~~, comprising:

a switch comprising,

at least two inputs, each input configured to be coupleable to at least two signal carrying devices,

a switching mechanism configured to multiplex signals received at said inputs; and

an output configured to carry the multiplexed signal;

a downconverter comprising an input coupled to the output of said switch and configured to downconvert the multiplexed signal; and

a signal processor comprising an input coupled to receive the downconverted multiplexed signal and an output;

wherein:

said signal processor is configured to provide, at the signal processor output, a data signal substantially corresponding to data contained in a communication signal carried by the signal carrying devices;

an A/D converter configure to convert the downconverted multiplexed signal to a digital signal;

a demultiplexer configured to demultiplex the digital signal into at least two component digital signals, each component digital signal containing a digital representation of a portion of the communication signal;

a channel estimator configured to receive the component digital signals and provide at least two estimation signals each related to a phase and amplitude shift of one of the at least two component digital signals;

a beam-forming processor configured to receive the at least two component digital signals and the at least two estimations signals and provide a demodulated signal; and

a decoder configured to receive the demodulated signal and provide the data signal;

wherein said communication receiver is a wireless communication receiver and said signal carrying devices are antennas.

19. (Currently amended) ~~The~~ A communication ~~receiver of Claim 17,~~ comprising:

a switch comprising,

at least two inputs, each input configured to coupleable to at least two signal carrying devices,

a switching mechanism configured to multiplex signals received at said inputs; and

an output configured to carry the multiplexed signal;

a downconverter comprising an input coupled to the output of said switch and configured to downconvert the multiplexed signal; and

a signal processor comprising an input coupled to receive the downconverted multiplexed signal and an output;

wherein:

said signal processor is configured to provide, at the signal processor output, a data signal substantially corresponding to data contained in a communication signal carried by the signal carrying devices;

said communication receiver is a wireless communication receiver and said signal carrying devices are antennas; and

~~wherein~~ the signal processor comprises:

a demodulator that receives at least two digital signals each corresponding to a digital representation of a portion of the communication signal at a lower frequency which is received by one of the at least two

antennas, the demodulator providing at least two demodulated signals each corresponding to one of the at least two digital signals and that provides at least two error signals each of which corresponds to an error rate of one of the demodulated signals with respect to an expected signal;

a diversity controller that receives the at least two error signals and that provides a selection signal and that provides a selection signal indicative of which of the demodulated signals of the at least two demodulated signals has a lower error rate; and

a memory that receives and stores the at least two demodulated signals, the memory outputting as the data signal one of the at least two demodulated signals in response to the selection signal.

20. (Original) The communication receiver of Claim 17 wherein:

the communication signal comprises a plurality of communication signals;

each antenna of the at least two antennas is configured to receive one of the plurality of communication signals;

the signal processor comprises at least two demodulators each configured to receive one of at least two digital signals each corresponding to a digital representation of a portion of a communication signal of the plurality of communication signals received by one of the at least two antennas; and

each of said at least two demodulators are configured to provide a data signal corresponding to a signal substantially corresponding to data contained in the communication signal of the plurality of communication signals.

21. (Cancel)

22. (Currently amended) A method for receiving a communication signal at a wireless communication device comprising at least two antennas, comprising:

receiving a communication signal using at least two antennas;

sampling the communication signal from each of the at least two antennas to produce a sampled signal;

down converting the sampled signal to generate a down converted signal;

generating a digitized signal from the down converted signal;

de-multiplexing the digitized signal to produce at least two digital signals each corresponding the communication signal as received by the at least two antennas; and

preparing an output signal based on the at least two digital signals

wherein the step of sampling comprises sampling at a frequency substantially equal to at least twice a Nyquist required sampling rate for a bandwidth of the communication signal.

23. (Original) The method for receiving a communication signal of Claim 22, wherein said steps of preparing comprises performing a beam forming procedure on the at least two digital signals to select one of the at least two digital signals as the data output signal.

24. (Currently amended) The method for receiving a communication signal of Claim 22, ~~wherein said~~ further comprising a beam forming procedure that includes the steps of:

determining an error of each of the at least two digital signals; and

selecting one of the at least two digital signals as the data output signal based upon an error criteria.

25. (Original) The method of Claim 22, wherein:

the method further comprises the step of demodulating each of the at least two digital signals; and

said step of preparing comprises combining the demodulated signals as the output signal.

26. (Cancel)

27. (Original) The method according to Claim 22, wherein:

said method is embodied in a set of computer instructions stored on a computer readable media; and

said computer instructions, when loaded into a computer, cause the computer to perform the steps of said method.

28. (Original) The method according to Claim 27, wherein said computer instruction are compiled computer instructions stored as an executable program on said computer readable media.

29. (Original) The method according to Claim 22, wherein said method is embodied in a set of computer readable instructions stored in an electronic signal.